Notice of Allowability	Application No.	Applicant(s)	
	10/795,781	LIN ET AL.	
	Examiner	Art Unit	
	Hoang V. Nguyen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *27 June 2005*.

2. ☒ The allowed claim(s) is/are *1-31*.

3. ☒ The drawings filed on *27 June 2005* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

HOANG V. NGUYEN
PRIMARY EXAMINER

Allowable Subject Matter

1. Claims 1-31 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Pett et al (US 5,382,959) discloses an antenna comprising a first conductive layer comprising one or more parasitic patches; a second conductive layer comprising a plurality of radiating patches; and a third conductive layer comprising a ground patch, wherein the first, second and third conductive layers are separated by first and second substrate layers. Pett, however, fails to further teach at least one grounding point electrically couples at least one of the radiating patches to the third conductive layer by a conductive path provided through the second substrate layer.

Claims 4 and 6-8 are allowed for depending on claim 1.

Regarding claim 2, Pett discloses an antenna comprising a first conductive layer comprising one or more parasitic patches; a second conductive layer comprising a plurality of radiating patches; and a third conductive layer comprising a ground patch, wherein the first, second and third conductive layers are separated by first and second substrate layers. Pett, however, fails to specifically teach that a first radiating patch having dimensions selected to radiate signals within a first frequency spectrum; and the second radiating patches having dimensions selected to radiate signals within a second frequency spectrum.

Claims 3, 5, 9, 13 and 14 are allowed for depending on claim 2.

Regarding claim 10, Pett discloses an antenna comprising a first conductive layer comprising one or more parasitic patches; a second conductive layer comprising a plurality of

radiating patches; and a third conductive layer comprising a ground patch, wherein the first, second and third conductive layers are separated by first and second substrate layers. Pett, however, fails to further teach that the third conductive layer comprises one or more slots within the ground patch.

Claims 11, 12 and 15 are allowed for depending on claim 10.

Regarding claim 16, Pett discloses a multi-layer, multi-band antenna comprising a first conductive layer comprising one or more parasitic patches; a second conductive layer comprising a plurality of radiating patches; a third conductive layer comprising a ground patch, a first substrate layer separating the first and second conductive layers; and the second substrate layer separating the second and third conductive layers, wherein the one or more parasitic patches are electrically isolated from the second and third conductive layers, and wherein the plurality of patches are electrically coupled and have a single feeding point to electrically couple the radiating patches to a feed conductor. Pett, however, fails to further teach at least one grounding point electrically couples at least one of the radiating patches to the third conductive layer by a conductive path provided through the second substrate layer.

Regarding claims 17, 20 and 24, Pett fails to further teach, among other features, that the plurality of radiating patches have one or more grounding points electrically coupling the radiating patches to the third conductive layer, and wherein the third conductive layer has one or more slots therein.

Claims 21 and 22 are allowed for depending on claim 20.

Claim 25 is allowed for depending on claim 24.

Regarding claim 18, Pett fails to further teach, among other features, that the first radiating patch having dimensions selected to radiate signals within a first frequency spectrum; and the second radiating patches having dimensions selected to radiate signals within a second frequency spectrum.

Regarding claim 19, Pett discloses a multi-layer circuit board comprising one or more parasitic patches disposed on a first substrate layer; a plurality of radiating patches disposed on a second substrate layer; and a ground patch disposed on the second substrate layer on a side opposite the radiating patches, wherein the one or more parasitic patches are electrically isolated from the radiating patches and the ground patch, and wherein the plurality of radiating patches are electrically coupled and have a single feeding point to electrically couple the radiating patches to a feed conductor. Pett, however, fails to further teach at least one grounding point electrically couples at least one of the radiating patches to the third conductive layer by a conductive path provided through the second substrate layer.

Regarding claim 23, Pett discloses a system comprising an antenna having a first conductive layer comprising one or more parasitic patches; a second conductive layer comprising a plurality of radiating patches; and a third conductive layer comprising a ground patch, wherein the first, second and third conductive layers are separated by first and second substrate layers, wherein the one or more parasitic patches are electrically isolated from the second and third conductive layers. Pett, however, fails to further teach that the plurality of radiating patches are electrically coupled and have a single feeding point to electrically couple the radiating patches to a feed conductor, and wherein at least one grounding point electrically couples at least one of the

radiating patches to the third conductive layer by a conductive path provided through the second substrate layer.

Reasons for indicating allowable subject matter for claims 26-31 were provided in the previous Office action.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiry

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Nguyen can be reached on (571) 272-1825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hvn
7/7/05

HOANG V. NGUYEN
PRIMARY EXAMINER